

minute bits that some arrested patients raise at very infrequent intervals. It is not yet deemed wise to insist on digestion and centrifugalization or on inoculation of guinea pigs.

5. **Infiltration.**—Physical signs of slight prominence of the clavicle, lessened movement of chest, narrowing of apical resonance with lessened movement of base of lung, slight or no change in resonance, distant or loud and harsh breathing, with or without some change in the rhythm (i. e., prolonged expiration), vocal resonance possibly slightly increased; or fine or moderately coarse rales present or absent. If sputum contain tubercle bacilli, any one of these.

6. **Apex.**—That portion of the lung situated above the clavicle and the third vertebral spine.

7. **A Small Part of One Lobe.**—An area of one or two intercostal spaces, or an area not exceeding sixty to eighty square centimeters in extent, according to the size of the patient.

Terms Used in Definition of "Moderately Advanced."

8. **Marked Impairment of Function.** Either Local or Constitutional.—Local: Marked dyspnea on exertion limiting seriously the patient's activity. Constitutional: Marked weakness, anorexia, tachycardia.

9. **Moderate Extent of Localized Consolidation.**—An area of one-half lobe or less, but may involve both apices; marked dullness, bronchial or decidedly broncho-vesicular breathing, markedly increased vocal resonances; rales usually present. These signs are to be sharply limited as to area instead of gradually shading into normal physical signs.

10. **Evidence of Destruction of Tissue.**—Presence of tubercle bacilli or elastic fibers in the sputum or the presence of the physical signs of a cavity. There are no absolutely certain physical signs of cavity but a combination of any four of the following signs is to be taken as indicative of a cavity: (1) Cracked-pot note; (2) amphoric breathing; (3) intense whispering pectoriloquy; (4) a velled puff or post tussive suction; (5) bubbling or resonant rales. "Physical signs of softening" do not admit of any definition apart from that of cavity formation, and the term should not be used.

11. **Disseminated Fibroid Deposits.**—More or less localized areas of fibrous tissue, producing on physical examination some change or dullness in the percussion note, more or less increase of vocal resonance, harsh, suppressed, or broncho-vesicular breathing, rales sibilant or sonorous usually, but at times fine and moderately coarse.

12. **Serious Complications.**—These should be limited to tuberculous complications such as meningitis, pharyngitis, laryngitis (except slight thickening of the posterior interarytenoid space, and superficial ulceration of a vocal cord), enteritis, peritonitis, nephritis, cystitis, orchitis, adenitis (unless very slight), etc.

Terms Used in Definition of "Far Advanced."

13. **Marked consolidation** indicates dullness merging into flatness, bronchial or tubular breathing and other signs of consolidation as defined in paragraph 10.

Terms Used in Definition of "Apparently Arrested."

14. **Constitutional Symptoms.**—These include elevation of temperature, loss of weight, loss of strength, night sweats, chills, tachycardia, cyanosis, loss of appetite, amenorrhea, etc.

15. **Physical Signs of a Healed Lesion.**—These may embrace every physical sign of infiltration or consolidation (see paragraphs 6 and 10), with the exception of rales, which must be permanently absent, except possibly a few fine rales at the base, probably atelectatic in origin, and at one apex or over a small part of one lobe. Rales in the latter two places are to be heard only during the cough, at the end of a prolonged expiration, or during the inspiration which follows the cough.

Terms Used in Definition of "Improved."

16. **Constitutional Symptoms Lessened or Entirely Absent.**—By this is meant an improvement in the general condition as shown either by a gain in both weight and strength or by reduction of previous febrile temperature to normal without loss of strength.

Terms Used in Definition of "Improved or Progressive."

17. **Essential Symptoms and Signs.**—These include, among others, weight, strength, appetite, night sweats, hemoptysis, pleurisy, dyspnea, temperature, pulse, rate, dullness, changes in vocal resonance and respiratory movement, rales.

Terms Used in Definition of "Apparently Cured."

18. **Ordinary Condition of Life.**—This term as used implies that the patient is able to live in an environment where he is able to support himself without the assistance of others, or to live in his former surroundings and pursue his former occupation.

State Hospital for Crippled and Deformed Children

REPORT OF THE SURGEON-IN-CHIEF OF THE MINNESOTA STATE HOSPITAL FOR INDIGENT CRIPPLED AND DEFORMED CHILDREN, TO AUGUST 1, 1914.

Minnesota State Board of Control, State Capitol, St. Paul, Minn.

Gentlemen: Nine hundred eighty-six children have been admitted and treated at the Minnesota State Hospitals for Indigent Crippled and Deformed Children.

Four hundred ninety-nine have been cured of all disease and deformity.

Two hundred forty-two have been discharged improved. These were not discharged cured as they had some deformity remaining, although cured of all active disease, and many of them were children who had infantile paralysis, and still had some paralysis of the muscles, and some shortening of the limbs due to lack of growth, which made it necessary for them to wear braces or other mechanical supports. However, as time goes on, even many of these will be practically cured. We have always predicted this in regard to these cases which have been discharged improved, and since we have opened the dispensary and asked these patients to report to us from time to time, they frequently return cured, but it must be understood that none of these patients unless they were taken away without our consent have left the hospital until they were able to walk, and practically cured, or able to walk with some form of support, and free from pain.

Forty-five have been discharged unimproved. This was due, in some cases, to the fact that the parents refused to leave the children with us as long as was necessary.

There have been seventy-six deaths, which we consider a very small percentage of deaths among children, especially when taking into consideration the fact that more than three-fourths of these children were suffering from deformities due to constitutional diseases, particularly tuberculosis.

Ninety patients are now being treated in the hospitals, and thirty-four patients have been admitted to the dispensary, making a total of one hundred twenty-four patients now under treatment in the hospitals and dispensary.

Attention has been frequently called in our report to the fact that statistics do not show anywhere near the actual amount of good accomplished. To fully appreciate this one would have to see each of these patients as he is brought to the hospital. Many of them are brought in on stretchers, and many of them are able to move about only on their hands

and knees. It is most gratifying to note how many of them leave the hospital perfectly restored physically, some of them with supports, and many without any mechanical support whatever. Our aim is always to keep the children free from pain and suffering as far as possible, and rare indeed is the child who is not immediately relieved of pain upon entering the hospital, and all of them are perfectly comfortable when they leave.

We believe that, by means of the dispensary which has been opened at Phalen Park, we are going to be able to treat a great many more patients, with much less cost to the state. Many of these patients live in the vicinity, and can be brought to the dispensary every Thursday morning for care and treatment. This will save the cost of board and nursing, though it will, of course increase the need of braces, for nearly all of the patients treated at the dispensary are in need of braces only, hospital treatment being unnecessary.

The cost of braces and supplies will also be greatly increased during the next years by the fact that with our enlarged hospital at Phalen Park, it will be possible to receive adults who are amenable to treatment.

The state of Minnesota has reason to be proud of the one-hundred-sixty bed hospital now erected at Phalen Park, and almost complete. One cannot pass through the wards of the hospital, the operating room, the nurses quarters, the room occupied by the free dispensary, and the play room for the children during rainy days, without appreciating that the State Board of Control has accomplished almost wonders with the appropriation which the legislature has given them.

I would urge the board in considering the amount of the appropriation for the next two years, to bear in mind that we will have not only a hospital of one hundred sixty beds to provide for, but an out-door department. The expense of maintaining the latter, although it will be only the cost of braces, will amount to quite a sum, for as you may have learned already, braces are quite expensive.

Taking into consideration the increased number of patients which we will be able to take care of in the hospital, and the out-door department, together with the increased number of nurses, thereby rendered necessary, and the increased cost of the necessities of living, it would seem that our appropriation should be nearly double that of the last two years.

I am proud to be able to report to you that we have now a complete medical and surgical staff in regular attendance, all of them men who stand at the head of their specialties. Not only have we orthopedic surgeons, but special general surgeons, specialists in nervous diseases, diseases of the nose and throat, eye and ear, skin and internal medicine. Every one of these men give their services without any compensation whatever, and respond cheerfully to a call at any time of night or day. Your staff at this institution is of such a standing that the medical department of the University of Minnesota has requested that every Thursday forenoon be devoted to teaching medical students from the university. This is mentioned simply that you may understand and appreciate the class of men who are devoting their time and skill to the care of these children, without any remuneration except the pleasure they receive from being able to relieve these wards of the state of their misfortune.

On another page will be found a detailed report of the diagnosis and results of all the cases treated.

The following is a general report of the work done in the hospitals and dispensary, during the past two years:

**MEDICAL AND SURGICAL REPORT OF HOSPITALS FROM AUGUST 1, 1912,
TO AUGUST 1, 1914.**

Number of patients in hospitals August 1, 1912.....	85
Number of new patients admitted to the hospitals.....	201
Total number treated in hospitals.....	286
Number of patients discharged from hospitals.....	181
Number of patients died	15
Number of patients in hospitals August 1, 1914.....	90
Total	286
Dressings applied in the hospitals.....	12,800
Operations performed at the hospitals.....	176
Casts applied at the hospitals.....	842
New braces applied at the hospitals.....	152
Irrigations, iodine and bismuth injections, etc.....	2,162
X-rays taken at hospitals.....	39
Wasserman reactions made at hospitals.....	12
Tuberculin reactions made at hospitals.....	24

**MEDICAL AND SURGICAL REPORT OF DISPENSARY FROM AUGUST 1, 1912,
TO AUGUST 1, 1914.**

New cases admitted to the dispensary.....	34
Old cases examined and treated at dispensary.....	52
Total number of cases under observation and treatment at dispensary.....	86
Total number of calls made by out patients at dispensary.....	277

Respectfully submitted by

ARTHUR J. GILLETTE,

Surgeon-in-Chief.

SUPERINTENDENT'S REPORT.

St. Paul, Minn., October 10, 1914.

Minnesota State Board of Control, State Capitol.

Gentlemen: The following recommendations are made after visiting institutions for indigent, crippled children and are respectfully submitted for your consideration.

The records of a large number of the hospitals I visited show that over fifty per cent of the patients are cured and many more are improved to such an extent that they are able to earn their living. The importance of giving this number an opportunity to fit themselves to earn a living when they are discharged can not be over estimated. For therapeutic as well as economic reasons I would recommend that all patients be given an opportunity to have such industrial training as their condition and adaptability will permit.

With the amount of land and the quality of the soil at Phalen Park I would recommend that gardening on a scientific basis be undertaken. Vegetables, small fruits and flowers for the hospital and for sale could be

raised on a garden of from six to eight acres. We would need a gardener, whose duties would include the care of the garden and lawns and the instruction of a class physically able to do this work.

I would recommend that an appropriation be asked sufficient to equip and maintain a shop for repairing and making orthopaedic shoes and braces. Older boys in the hospital and boys who are out-door patients would be given an opportunity to learn the trade. Later the making of hand bags, suit cases and other leather work might be added to this department.

Chair caning and the making of reed furniture is a trade requiring little expenditure in equipment and has been tried with successful results in eastern trade schools. Tailoring, printing, book-binding, photography, engraving and the making of jewelry are only a few of the trades whereby the boys at the state hospital may fit themselves to become self-supporting citizens if they are given the opportunity to do so.

Special training of the little girls in the kitchen garden method of housekeeping, where their play with dolls is converted into training in the ordinary household duties, is of importance. Mending, darning and plain sewing should be taught and the majority of the girls are able to do this work. Cooking and instruction in general housework, as well as in the care of young children, should be available as a part of our industrial training for the girls who are able to take it and are adapted for such work..

In this department I would like to make a special feature of the making of children's clothing, especially the clothing for young babies. It is difficult to buy ready made the kind of clothing for babies that is suitable for use in the ordinary home. Plain garments, plainly made, would always have a market and the girl would have as much demand for her work in the country as in the city. We have an industrial teacher and the training in this department incurs no extra expense. The regular day school work through the eighth grade is carried on now and an educational foundation laid for vocations followed by any well child. They may be taught type-writing and general office work, stenography and bookkeeping. Children may, under supervision, work in the office and get the first principles of such work.

I would recommend that the history of the child be kept and that whenever possible the home conditions be ascertained and that after discharge from the hospital a report be called for not less than once a year for a period of time designated by the surgeon in charge and that this report be made a matter of record. I think it is of importance that some research work be carried on. People who are not familiar with the subject are apt to consider that the crippled children are below normal mentally.

The work in an orthopaedic hospital is not sufficiently general to admit of maintaining a training school for nurses and the proper care of the children requires more than can be expected from a domestic employe. I would like the privilege of starting a class for the training of girls to care for well children in private families. A girl meeting the requirements for admission, would come on probation and if she were accepted she would have class work in hygiene, children's diet, bathing, keeping the room clean and in order, mending and plain sewing, with especial emphasis

on her own personal care and her treatment of the children. She would receive nominal salary while taking this course and assistance in obtaining employment when she had completed it.

Many hospitals are advocating out-door school work when the weather permits. This can be done here if it is deemed advisable.

Yours truly,

ELIZABETH MCGREGOR,
Superintendent.

EDUCATIONAL REPORT.

School is maintained at the hospital throughout the year. For the summer months class work is done from 9 to 12 a. m., and the children are out of doors the remainder of the day. During the school year the regular work is done and many children lose no time from their school grade by their residence here.

The work corresponds to the work in the public schools from the kindergarten through the eighth grade. Examinations are held at the end of each semester and report cards are given. Patients unable to attend the work in the class room are given bedside instruction. This occupies their minds and helps to pass the hours that would otherwise be weary as well as helping to keep them up to grade. The bed patients do not need urging to prepare their lessons and their work is well done. The children under treatment here are eager to learn, bright, alert, willing to comply with requirements and their happy dispositions should be an example to those without bodily ills.

THE INDUSTRIAL DEPARTMENT.

During the past two years 149 children were enrolled, 71 girls and 78 boys, 74 were in attendance from October, 1912, to June, 1913; 75 from September, 1913 to June, 1914.

The work in the industrial department is chosen to suit the needs of both boys and girls. The primary industrial class which is composed of little boys and girls from four to seven years, an average number of fifteen attended classes for the two years. This primary division worked one-half hour each day and their course comprised the folding, tearing and cutting of paper into articles, clay work, primary weaving, cardboard mounting and construction.

Children are placed according to their physical capacity and ability and not according to age or grade of academic work.

Another class consists of boys and girls from eight to ten years of age. An approximate number of twenty-five attended during the two years. The pupils of this second class take up weaving in various forms, sewing, cardboard construction, knitting, crocheting and sloyd work. Forty minutes each day is devoted to this. Another class of boys between the ages of eleven and thirteen work the same length of time at drawing and wood work. An idea of the difficulties under which some of the patients labor may be obtained from the case of a nine year old boy who wears a head brace,

rests on two crutches while working and has the use of only one arm. No student worked more faithfully than this boy at his favorite occupations; weaving and woodwork.

All girls from eleven years on, meet twice a week for two hours to sew. During the two years five girls with paralyzed hands have worked faithfully. The girls are taught elementary sewing so that when they get home they can assist in the making of their clothes. Special time was given the second year for the making of articles for the Christmas sale, which was successfully conducted by the boys and girls. All were eager to do their best and to make as many articles as possible. The sale consisted of table runners, bags of various sizes and descriptions, aprons, towels, baby jackets, slippers, table mats, broom holders, tea stands, magazine racks and reed baskets.

One afternoon each week the children are given practical instruction in the darning and mending of their clothes. The school room is open after school hours for any student to work, providing it is left in order when they leave.

Articles have been kept each year for exhibits at the Minnesota State Fair and this last year the work was sent to be exhibited at the N. E. A. meeting held in St. Paul. Articles not sold or kept for exhibits are given to the children to take home.

As the average length of stay in the hospital is from six to eight months the work has to be suited to each individual case. Work must be given that can be completed by the time the patient is ready to leave. It must hold their interest as well as give them useful instruction. This is not difficult as the majority are more than willing "to make something." Any new stitch, any new way of making bird houses, paper lanterns or doll houses is keenly appreciated by the older ones as well as the little ones.

The bed patients have their share of the work. Several dolls' dresses by patients unable to be up, were on exhibit at the N. E. A., also crocheting, weaving and drawing.

In addition to the work now given the girls should be taught elementary cooking. Girls from twelve to fourteen years should be able to assist with the housework when they are sent home, and the knowledge of how to prepare and cook food is necessary. Only a small equipment in the beginning would be required to give the necessary training. The girls with this added knowledge would be better equipped to earn their living when the time comes for them to do so.

State Public School

To the State Board of Control.

Gentlemen: The fifteenth biennial report of the State Public School is herewith respectfully submitted.

The following statistics indicate in part the results of the work of the two years:

GALEN A. MERRILL,
Superintendent.

1912-13.		1913-14.	
Present August 1, 1912.....	262	Present August 1, 1913.....	268
Admitted first time:		Admitted first time:	
Boys	131	Boys	120
Girls	90	Girls	98
	221		218
Readmitted:		Readmitted:	
By order of court:		By order of court:	
Boys	1	Boys
Girls	Girls
	1		
Returned from homes:		Returned from homes:	
Boys	93	Boys	81
Girls	87	Girls	97
	180		178
	181		178
Total number cared for..	665	Total number cared for....	659
Cost	\$58,920.04	Cost	\$69,980.36
Cost per capita, total number		Cost per capita, total number	
cared for	88.60	cared for	106.91
Average daily attendance:		Average daily attendance:	
Boys	195	Boys	189
Girls	72	Girls	81
	267		270
Cost per capita, average daily		Cost per capita, average daily	
attendance	\$220.67	attendance	\$259.18
Placed out first time:		Placed out first time:	
Boys	123	Boys	96
Girls	94	Girls	82
	217		178
Replaced:		Replaced:	
Boys	78	Boys	84
Girls	80	Girls	77
	158		161
Total number placed out..	375	Total number placed out..	339
Average per month.....	81	Average per month	28
Average number in homes		Average number in homes	
under supervision:		under supervision:	
Boys	717	Boys	733
Girls	552	Girls	542
	1,269		1,275
Average total wards:		Average total wards:	
Boys	912	Boys	922
Girls	624	Girls	623
	1,536		1,545
Cost:		Cost:	
Of school	\$58,920.04	Of school	\$69,980.36
Of agency	10,016.98	Of agency	11,042.39
	\$68,937.02		\$81,022.75

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